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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,975	03/06/2002	Huub Van Aert	27500-89	8418

7590

11/25/2003

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EXAMINER

ZALUKAEVA, TATYANA

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 11/25/2003

86

Please find below and/or attached an Office communication concerning this application or proceeding.

0206

Office Action Summary

Application No.

10/091,975

Applicant(s)

AERT ET AL.

Examiner

Tatyana Zalukaeva

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-20 is/are pending in the application.
- 4a) Of the above claim(s) 11 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-9, 11-20 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION.

1. Applicants amendments, paper No. 5 have overcome rejections under 35 USC 112, second paragraph and 101 rejections, and these rejections are therefore, withdrawn.
2. Newly submitted claims 11 and 12 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: if originally presented the restriction would have been made between the process of making and the article, as non-related invention, and between the monodisperse polymer particles and the device comprising polymer particles as intermediate final, wherein the intermediate, i.e. monodisperse polymer particles have the utility by itself, namely can be used in heat resistant compositions.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 11 and 12 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

3. Claims 1-9, 13-20 are examined on the merits.

Applicants amended claim 1 by introducing the limitation that initiator is added prior to the addition of the monomer.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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5. Amended claims 1-8 stand rejected and claims 13-20 are rejected under 35 U.S.C. 102(b) as being anticipated by EP'675.

EP'675 discloses aqueous free radical polymerization of ethylenic monomers in the presence of cyclodextrin or cyclodextrin derivatives (abstract, page 3, lines 50-57). The monomers suitable for polymerization are listed on page 4, lines 6-20 and 45-55 and are the monomers of the instant claims. A free radical initiator preferred is one of sodium potassium, lithium or ammonium persulfate (page 5, lines 5-10). The method is performed without the addition of a surfactant (page 6, lines 16, 17). The solid contents are presented in Table 3-1 on page 11, and those values are below 30%w/w. The lack of large particles such as those 1-10 microns (therefore the particle size is less than 1 micron) inherently provides the particle sizes with the range of the instant claim 8. With regard to the new limitation that the initiator is added to a system prior to the addition of a monomer, EP'675 on page 8 teaches that the first initiator combination dissolved in 10 grams of deionized water was added to a reaction flask. A redox initiator combination comprising an ammonium persulfate dissolved in water were prepared. The reaction mixture and the redox initiator combinations were fed separately into the reaction flask (page 9, lines 30-37). See also example (B) on page 12, wherein the first part of initiator added to the reaction flask prior to the addition of monomers and the rest of initiator system (page 12, lines 49-52). Also of interest is Example 6.1 on page 17 that reads on both prior addition of initiator (lines 21, 22 of page 17) and on the seed polymerization process as per instant claim 16.

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6. Claims 1-8 stand rejected and claims 13-20 are under 35 U.S.C. 103(a) as being unpatentable over Rimmer et al (Polymer, 40 (1999), 6673-77), hereinafter referred to as Rimmer'1. Rimmer discloses suspension or emulsion polymerization of **butyl methacrylate (BMA)** in the presence of **β -cyclodextrin (β -CD)** in the presence of **free radical persulfate initiator** (introduction, experimental, pp. 6673, 6674). Batch emulsion polymerization of BMA was carried out. The process was performed in the absence of a surfactant. Detailed description of procedure is presented in section 2.2. "preparation of lattices" (page 6674). Particle size and solid content measurements have been made as seen in sections 2.4 and 2.5. Particle size distribution is presented in Table 1 on page 6674, and for the experiment of the article runs 4-13 show the results wherein the particle size distribution is from about 500 to about 800. One of the purpose of Ritter'1 article was to reduce the solids content of the lattices by achieving approximately 19%w/w (page 6675, right column, last paragraph). This is clearly within the claimed range.

With regard to particle sizes as claimed in the instant claim 8, if the recited micrometers are converted into nanometers the range is 20-20,000 nm. As seen from Table 1 on page 6674, particle sizes of examples 5-13 of Rimmer 1 are clearly within the claimed range. Thus Ritter'1 discloses all steps of the process, and all characteristics of the resultant products as instantly claimed.

Rimmer'1 differs from the instant claims by disclosing a batch process versus semi-continuous process, as instantly claimed, and by not disclosing that the initiator is added prior to the addition of a monomer.

However, as it was held by the Courts, the claimed continuous operation would have been obvious in light of the batch process of the prior art, as per In re Dilnot, 319 F.2d 188, 138 USPQ 248 (CCPA 1963).

However, as clear from In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) selection of ANY order of mixing ingredients is prima facie obvious, see also In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) and Ex parte Rubin, 128 USPQ 440 (Bd. App, 1959). wherein the prior art reference disclosing a process was held to render prima facie obvious claims directed to a process by reversing the order of the prior art steps.

7. Claims 1-8, 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Storsberg et al Macromolecules. Rapid Communication, 21, 236-41 (2000), hereinafter referred to as Storsberg

Storsberg discloses polymerization of hydrophobic monomers methyl methacrylate and styrene in the presence of β -CD from homogeneous aqueous solutions under free radical conditions in the presence of potassium persulfate initiator.

The disclosure of Storsberg differs from the instant claims by: not disclosing prior addition of initiator as per instantly amended claim 1, and

- a) not specifying the semi-continuous process, as per claim 1;
- b) not specifying the solid content, as per claim 1;

c) not specifying the size of particles, as per claim 8.

With regard to the order of adding reagent, the rationale discussed above, in paragraph 6 is incorporated herein.

With regard to "semi-continuous process" the rationale applied to Ritter'1 reference is incorporated herein in its entirety.

With regard to specific characteristics of the resultant polymer, it is a base presumption that one who performs the steps of a process must necessarily produce all of its advantages. Mere recitation of a newly discovered property or **function** that is inherently possessed by the things or steps in the prior art does not cause a claim drawn to those things to distinguish over the prior art.

Leinoff v. Louis Milona & Sons, Inc. 220 USPQ 845 (CAFC 1984).

8. In addition to the above references the rejection is also made over EP 0 334 515 that reiterates the process, as recited in the instantly amended claim 1, namely includes the limitation of prior addition of an initiator.

9. Claim 9 stand rejected under 35 U.S.C. 102(a) or 102 (b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over any one of the above references, each one individually. Because of the nature of product-by process claims, the Examiner cannot ordinarily focus on the precise difference between the claimed product and the disclosed product. It is then Applicants' burden to prove that an unobvious difference exists. See **In re Marosi**, 218 USPQ 289, 292-293 (CAFC 1983).

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See also footnote 11 O.G. Notice 1162 59-61, wherein a 35 USC 102/103 rejection is authorized in the case of product-by-process claims because the exact identity of the claimed product or the prior art product cannot be determined by the Examiner. *In re Brown*, 173 USPQ 685 (CCPA 1972), the Court of Customs and Patent Appeals (CCPA) explicitly approved the 102/103 rejection of a product-by-process claim over a reference which showed a product which appeared to be identical or only slightly different from the claimed product.

The rejection is also made in the sense of *In re Thorpe*, 227 USPQ 964 (CAFC 1985), wherein the Examiner rejected product-by-process claims over a product, which although prepared in a different manner, appeared to be the same (prima facie) as the claimed product.

Response to Arguments

10. Applicant's arguments filed September 22, 2003 have been fully considered but they are not persuasive.

With regard to EP'675 reference, the crux of Applicants arguments is that the EP'675 does not teach that the water based system comprises an initiator and a cyclodextrin as in the present invention. This is not found persuasive for at least two reasons:

a) the instant claim does not say anything about the initial presence of a cyclodextrin and initiator in a water system. The only thing it recites is that the initiator is added prior to the addition of monomer. Although the claims are interpreted in light of the

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specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

b) the limitation of the addition of the initiator prior to the addition of the monomer is met by EP'675, as discussed above. EP'675 on page 8 teaches that the first initiator combination dissolved in 10 grams of deionized water was added to a reaction flask. A redox initiator combination comprising an ammonium persulfate dissolved in water were prepared. The reaction mixture and the redox initiator combinations were fed separately into the reaction flask (page 9, lines 30-37). See also example (B) on page 12, wherein the first part of initiator added to the reaction flask prior to the addition of monomers and the rest of initiator system (page 12, lines 49-52). Also of interest is Example 6.1 on page 17 that reads on both prior addition of initiator (lines 21, 22 of page 17) and on the seed polymerization process as per instant claim 16.

With regard to Rimmer reference Applicants' argument resides entirely on the present amendment reciting that the initiator is added prior to the addition of monomers to the reaction system in the instant claims, while in Rimmer initiator is added prior to monomers. This issue is discussed in paragraph 6 of the present Office Action. As clear from *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) selection of **ANY** order of mixing ingredients is prima facie obvious, see also *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) unless the criticality of a particular order is shown on the record, and *Ex parte Rubin*, 128 USPQ 440 (Bd. App, 1959). wherein the prior art

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reference disclosing a process was held to render prima facie obvious claims directed to a process by reversing the order of the prior art steps.

The reference to Strossberg is argued by Applicants on exactly the same ground as the reference to Rimmer, and therefore, the previous comment is incorporated herein in its entirety.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

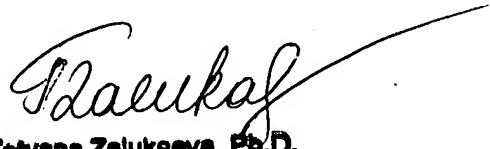
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva whose telephone number is (703) 308-8819. The examiner can normally be reached on 9:00 - 5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



Tatyana Zalukaeva, Ph.D.
Primary Examiner
Art Unit 1713

November 20, 2003